

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-24. (canceled)

25. (currently amended) A negative-resistance circuit, comprising:

a field effect transistor;

a plurality of distributed constant lines respectively connected to three terminals ~~thereof~~ of said transistor;

an output terminal connected to ~~one of said three terminals~~ a gate of said transistor through one of said plurality of distributed constant lines to provide a negative resistance;

an inductance element connected between said output terminal and a ground potential, said inductance element being adjustable so as to adjust ~~[[a]]~~ said negative resistance value; and

another distributed constant line connected ~~in parallel~~ to at least another one of the three terminals of said transistor and in parallel with another one of said distributed constant lines.

26. (previously presented) The negative-resistance circuit according to claim 25, wherein:

said inductance element comprises yet another distributed constant line shorter than one-quarter wavelength at a desired frequency for connecting between a signal conductor of said inductance element and the ground potential.

27. (previously presented) The negative-resistance circuit according to claim 25, wherein:

said yet another distributed constant line is a coplanar type one composed of a signal conductor and ground conductors disposed to sandwich said signal conductor with predetermined gaps therebetween, and

said inductance element comprises a conductor piece which traverses only one of said gaps to connect said signal conductor with said ground conductor.

28. (currently amended) A negative-resistance circuit, comprising:

a field effect transistor;

a plurality of distributed constant lines respectively connected to three terminals thereof;

an output terminal connected to ~~one of said three terminals~~ a gate of said transistor through one of said plurality of distributed constant lines to provide a negative resistance;

a capacitance element connected between said output terminal and a ground potential, said capacitance element being adjustable so as to adjust ~~[[a]]~~ said negative resistance value; and

another distributed constant line connected ~~in parallel~~ to at least another one of the three terminals of said transistor and in parallel with another one of said distributed constant lines.

29. (previously presented) The negative-resistance circuit according to claim 28, wherein:

said capacitance element comprises yet another distributed constant line which is branched from a signal conductor of said capacitance element, has an opened leading end, and is shorter than one-quarter wavelength at a desired frequency.

30. (previously presented) The negative-resistance circuit according to claim 28, wherein:

said yet another distributed constant line is a coplanar type one composed of a signal conductor and ground conductors disposed to sandwich said signal conductor with predetermined gaps therebetween, and

said capacitance element comprises a conductor piece which is branched from said signal conductor and has an opened leading end.

31. (canceled)

32. (previously presented) The negative-resistance circuit according to claim 25, wherein:

one of said plurality of distributed constant lines is a distributed constant line which is longer than one-quarter wavelength and shorter than one-half wavelength at a desired frequency, and has a leading end connected to a ground potential.

33. (previously presented) The negative-resistance circuit according to claim 25, wherein:

one of said plurality of distributed constant lines is a distributed constant line which is shorter than one-quarter wavelength at a desired frequency, and has an opened leading end, and

others of said plurality of distributed constant lines and said another distributed constant line are distributed constant lines each having a leading end short-circuited to a ground potential.

34. (previously presented) The negative-resistance circuit according to claim 28, wherein:

one of said plurality of distributed constant lines is a distributed constant line which is longer than one-quarter wavelength and shorter than one-half wavelength at a desired frequency, and has a leading end connected to a ground potential.

35. (previously presented) The negative-resistance circuit according to claim 28, wherein:

one of said plurality of distributed constant lines is a distributed constant line which is shorter than one-quarter wavelength at a desired frequency, and has an opened leading end, and

others of said plurality of distributed constant lines and said another distributed constant line are distributed constant lines each having a leading end short-circuited to a ground potential.

36-37. (canceled)

38. (currently amended) The negative-resistance circuit according to claim 25, wherein:

~~said transistor is a field effect transistor, and~~

said terminal to which said distributed constant lines are connected in parallel is a source of said field effect transistor.

39. (currently amended) The negative-resistance circuit according to claim 28, wherein:

~~said transistor is a field effect transistor, and~~

said terminal to which said distributed constant lines are connected in parallel is a source of said field effect transistor.

40. (canceled)

41. (currently amended) The negative-resistance circuit according to claim 38, wherein:

~~said output terminal of said negative resistance circuit is disposed through a distributed constant line connected to a gate of said field effect transistor, and wherein:~~

said negative-resistance circuit further comprises:

a bias power source for supplying said gate with a predetermined DC voltage; and

a resistor connected between said bias power source and said distributed constant line connected to said gate.

42. (currently amended) The negative-resistance circuit according to claim 39, wherein:

~~said output terminal of said negative-resistance circuit is disposed through a distributed constant line connected to a gate of said field effect transistor, and wherein:~~

said negative-resistance circuit further comprises:

a bias power source for supplying said gate with a predetermined DC voltage; and

a resistor connected between said bias power source and said distributed constant line connected to said gate.

43. (canceled)

44. (previously presented) An active filter comprising:

the negative-resistance circuit according to claim 25;  
and

a resonator connected in series with said negative-resistance circuit.

45. (previously presented) An active filter comprising:

the negative-resistance circuit according to claim 28;  
and

a resonator connected in series with said negative-resistance circuit.

46. (canceled)